COVID-19 Trends in St. Louis County

08/19/2021

Table of Contents

Key Findings

- The recent surge has begun to show signs of waning, but COVID-19 is still spreading at a rapid pace in St. Louis County. An average of 286 new cases (28.7 per 100,000) being diagnosed each day, while down 9.7 percent from two weeks ago, is still an alarming rate of new cases. Coupled with a PCR positivity rate of 11.6 percent and a decreasing testing rate (228 PCR tests per 100,000 per day), this recent downturn could quickly form the base of another spike in transmission.
- Rates of newly diagnosed infections are highest among groups with lower rates of vaccination – St. Louis County residents in their teens, twenties, and thirties; Black or African American residents; and residents of the county's northern regions.
- COVID-related hospital admissions and ICU occupancy continue to rise, however less rapidly than in previous weeks. Currently, both metrics are at levels similar to late January. Hospital-related metrics are generally lagging indicators, so COVID-related hospital admissions could begin to level off in the coming weeks.
- The rate of COVID-related deaths has started to plateau. Relatively high rates of vaccination among older adults, who are at high risk of death if infected with SARS-CoV-2, has helped to reduce the death toll from the latest infection surge, but it has not been eliminated.

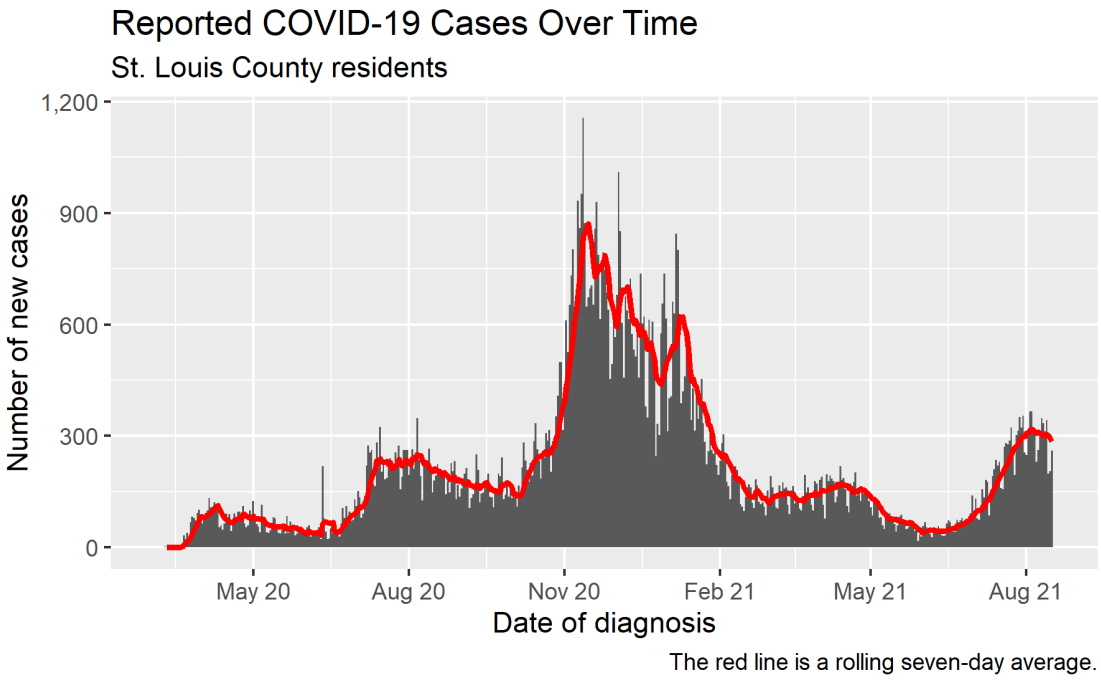
Overall Trends

	07/20–08/02	08/03-08/16
1. Rate of new cases	🔴	🔴
2. Trend in new cases	🔴	🟡
3. Test positivity rate	🔴	🔴
4. Hospital admissions	🔴	🟡
5. Deaths	🔴	🟢
6. Daily tests	🟢	🟡
7. ICU occupancy	🟡	🟡

NOTE: To account for reporting and data entry delays, this report focuses on data about COVID-19 cases diagnosed through 08/16. Unless otherwise specified, all averages are seven-day rolling averages. Data are current as of 08/19.

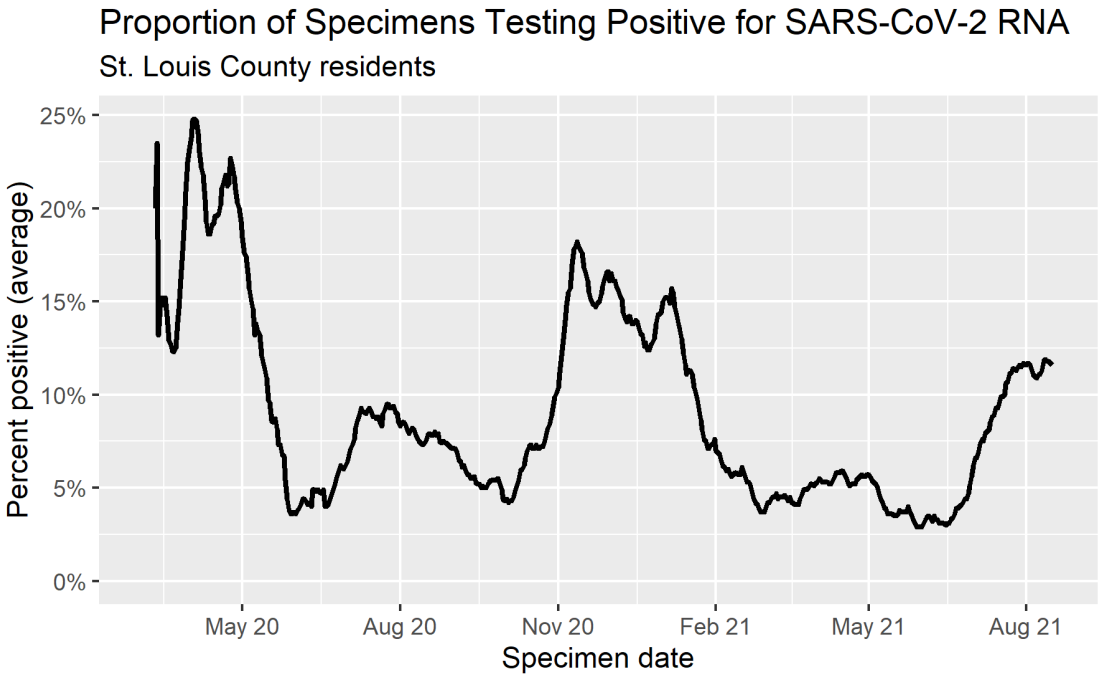
New Cases ●●

Between 08/03 and 08/16, the average number of new COVID-19 cases diagnosed among St. Louis County residents decreased by 9.7 percent from 317 to 286 cases per day. The current rate of daily COVID-19 diagnoses (28.7 cases per 100,000 residents per day) is high.



Test Positivity Rate ●

As of 08/16, the seven-day positivity rate among St. Louis County residents receiving PCR testing for COVID-19 is 11.6 percent.



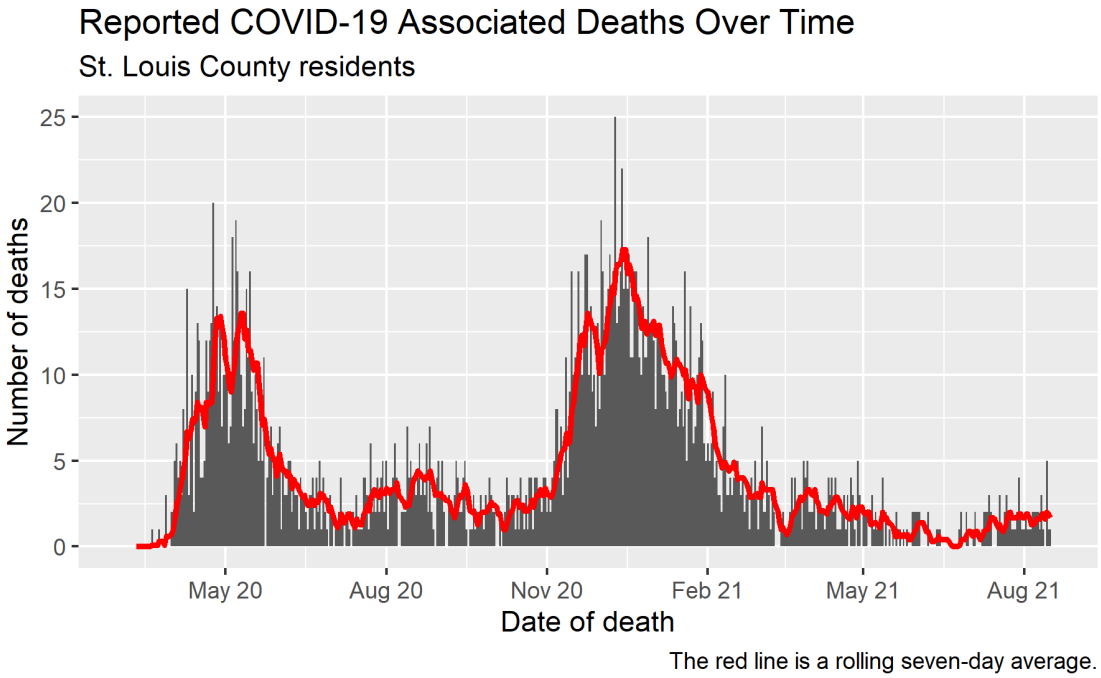
Hospital Admissions ●

Based on data released by the St. Louis Metropolitan Pandemic Task Force and analyzed by Dr. Christopher Prener at St. Louis University, the number of average daily hospital admissions for COVID-19 at SSM, BJC, Mercy, and St. Luke's hospitals in the St. Louis metro area increased by 9.1 percent from 08/03 (72.4 new patients per day) to 08/16 (79.0 new patients per day).

Deaths ●

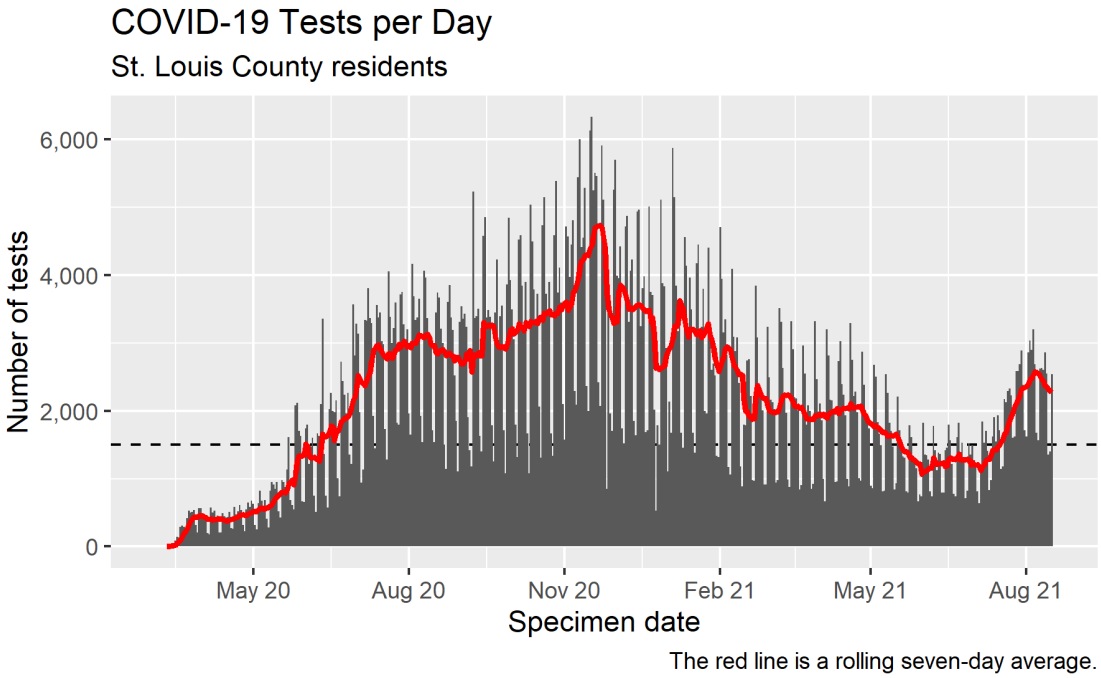
As of 08/16, at least 1 in 425 St. Louis County residents has died of COVID-19 (2,349 total COVID-19 deaths). Between 08/03 and 08/16, reported COVID-19-associated deaths decreased by 10.5 percent from 1.9 to 1.7 deaths per day. However, these numbers should be evaluated in context:

- Deaths are a lagging indicator of the severity of the COVID-19 pandemic. For people who die of COVID-19 infection, the time from onset of illness to death is often several weeks.
- St. Louis County DPH is almost certainly not yet aware of all COVID-related deaths that occurred between 08/03 and 08/16. We sometimes do not learn of a patient's death until their death certificate has been filed and the Missouri Department of Health and Senior Services matches death certificate data with COVID-19 surveillance data, which can take several weeks. For recent dates, we may be aware of fewer than half of the true number of COVID-19 deaths.



Tests per Day ●

As of 08/16, an average of 2,277 specimens are being collected for confirmatory COVID-19 testing (i.e., PCR testing) per day from St. Louis County residents. While this is 52 percent more than St. Louis County's established target of 1,500 PCR tests per day, the high positivity rate of 11.6 percent suggests that the current rate of testing is leaving a large portion of infections undiagnosed.



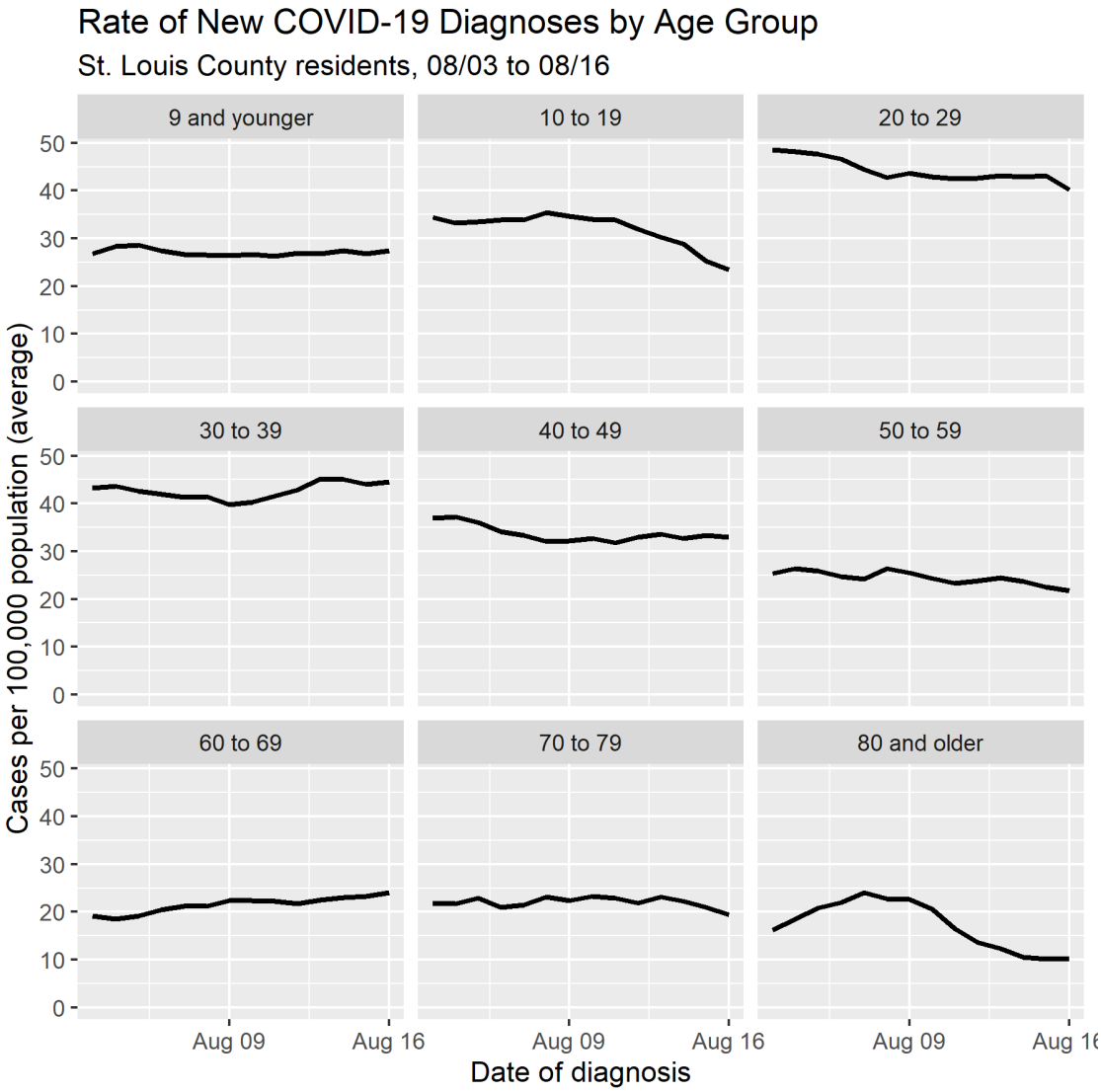
ICU Occupancy ●

According to data released by the Pandemic Task force, 146 intensive care unit (ICU) beds at SSM, BJC, Mercy, and St. Luke's hospitals in the St. Louis metro area were occupied by confirmed or suspected COVID-19 patients as of 08/16 – 16.8 percent of total ICU capacity, assuming a total capacity of 871 ICU beds.

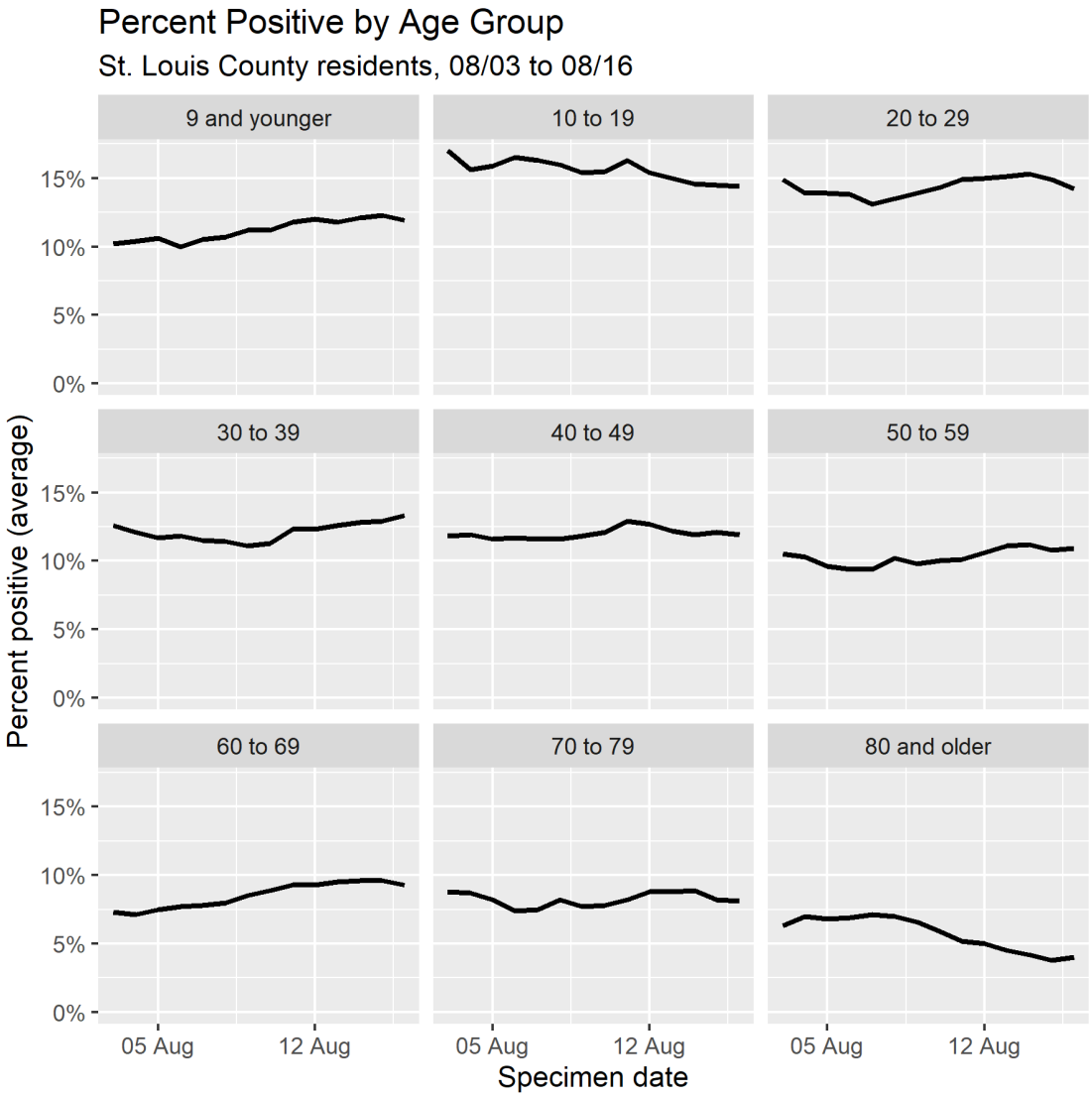
Demographic Trends

Age Groups

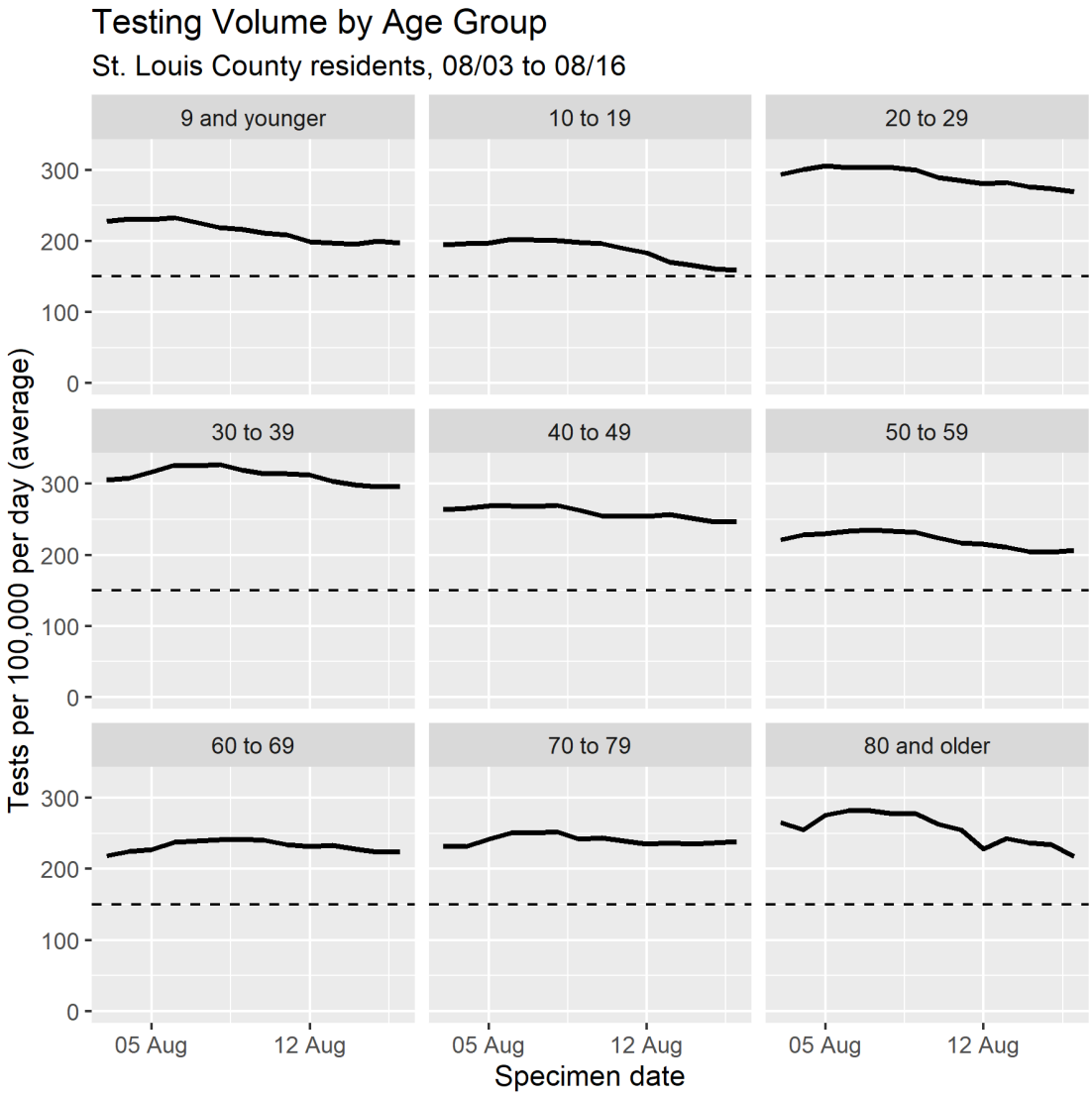
Average rates of new COVID-19 diagnoses decreased among most age groups between 08/03 and 08/16, with the 9 and younger, 30–39, and 60–69 year-olds seeing increases. Currently, incidence rates are highest among 30–39 and 20–29 year-olds (44.6 and 40.2 cases per 100,000 per day, respectively) and lowest among 80-plus year-olds (10.3 cases per 100,000 per day).



As of 08/16, seven-day positivity rates among those receiving PCR testing range from 4 percent among 80-plus year-olds to 14.4 percent among 10–19 year-olds. Currently, PCR positivity rates are greater than 10 percent among all age groups except for 60–69, 70–79, and 80-plus year-olds. Age-stratified positivity rates remained stable for most age groups between 08/03 and 08/16, with increases in 9 and younger, and 60–69 year-olds, and decreases in 10–19 and 80-plus year-olds.



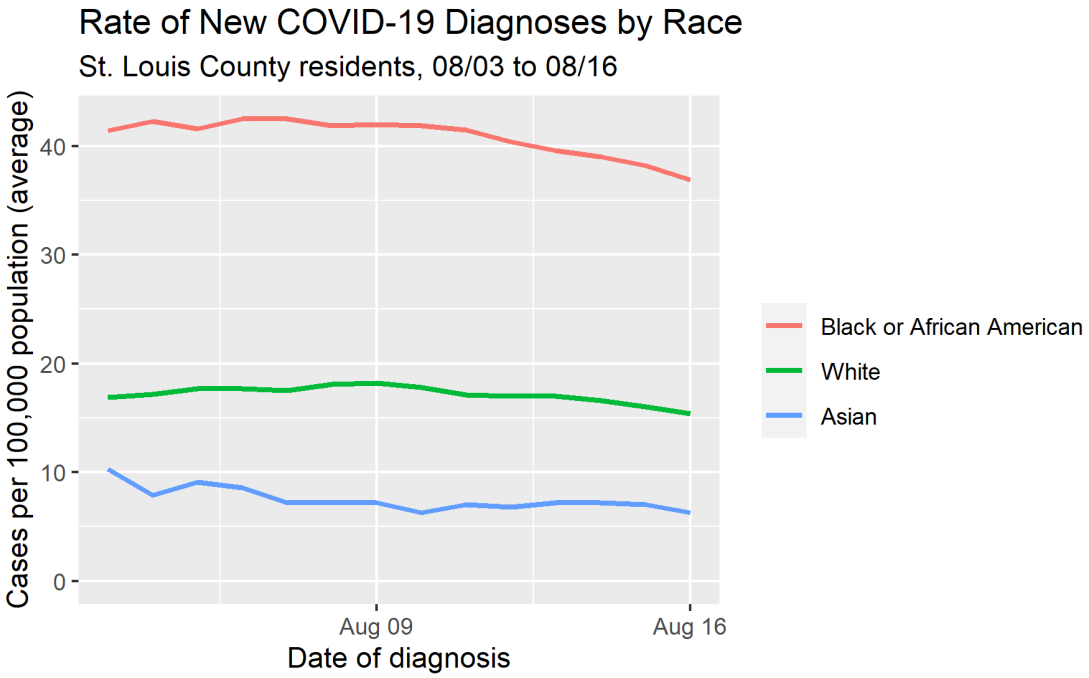
Rates of testing fell among most age groups between 08/03 and 08/16, with only 60–69 and 70–79 year-olds seeing small increases. Currently, PCR testing volume is above St. Louis County's target of 150 tests per 100,000 per day among all age groups, with rates ranging from 159 to 296 tests per 100,000 per day. However, the current positivity rates indicate that more testing is urgently needed among all age groups, particularly younger age groups, in order to identify cases and interrupt transmission through isolation and quarantine.



Race

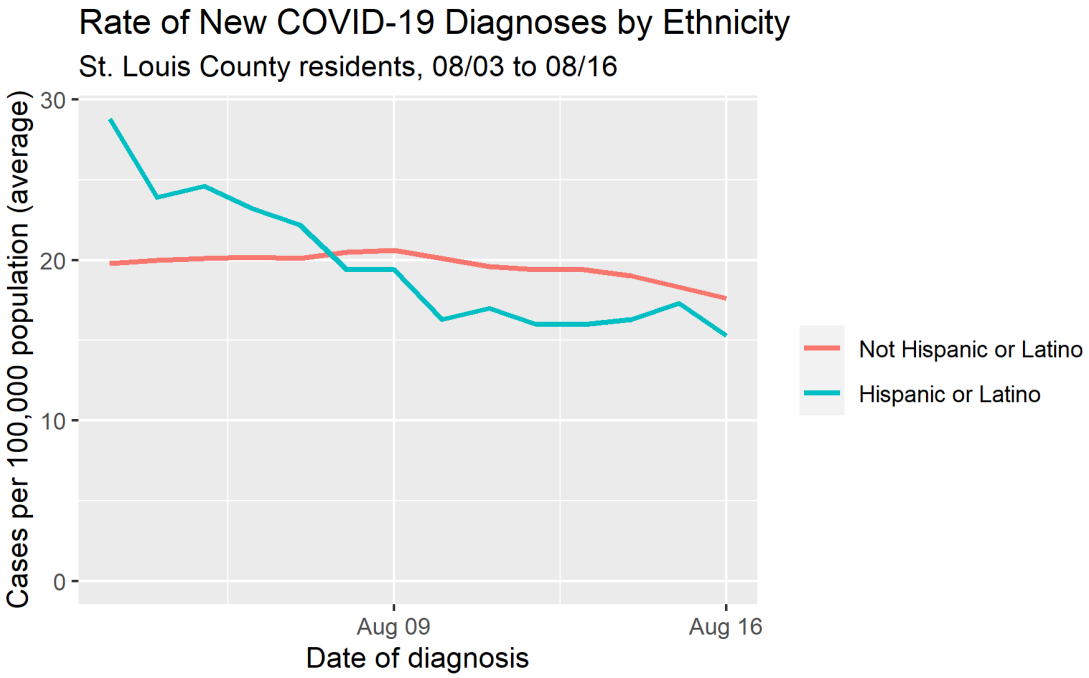
Race is currently unknown for 29 percent of COVID-19 cases diagnosed the week ending 08/14, which complicates analysis of trends by racial group. Nevertheless, between 08/03 and 08/16, for cases where race is known, the average rate of new COVID-19 diagnoses decreased by 10.9 percent among Black or African American residents of St. Louis County, by 8.9 percent among white residents, and by 38.8 percent among Asian residents. As of 08/16, the average rate of newly diagnosed infections among Black residents (36.9 cases per 100,000 per day) is 2.2 times the rate among white residents (16.9 cases per 100,000 per day) and 5.9 times the rate among Asian residents (6.3 cases per 100,000 per day), likely reflecting the wide racial disparities in COVID-19 vaccination rates.

Racial groups with fewer than five case diagnosed during this reporting period (Asian, American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, multiracial, and “some other race”) have been excluded from this analysis.



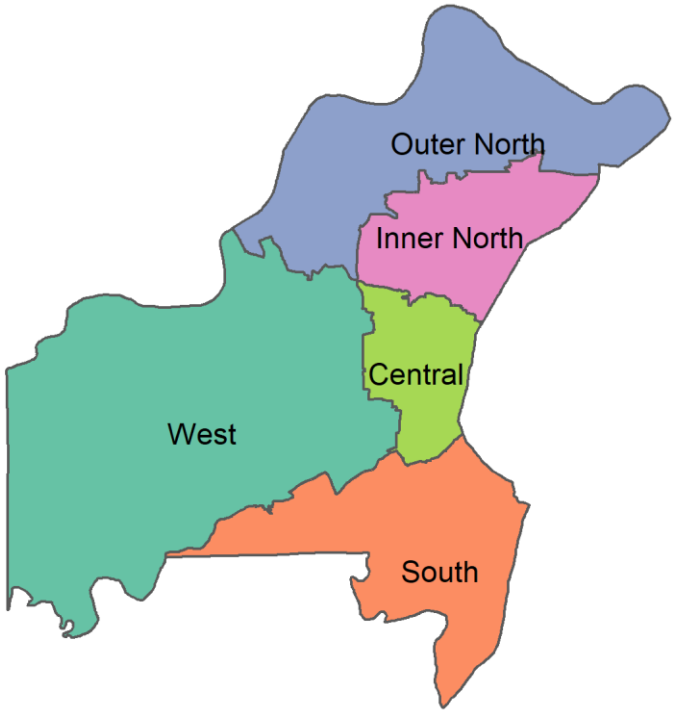
Ethnicity

Ethnicity is currently unknown for 37 percent of COVID-19 cases diagnosed during the week ending 08/14, which complicates analysis of trends by ethnic group. For cases where ethnicity is known, the rate of new diagnoses decreased by 46.9 percent among Hispanic or Latino residents and by 11.1 percent among non-Hispanic residents between 08/03 and 08/16. Currently, the average rate of new cases among non-Hispanic residents (17.6 cases per 100,000 per day) is 1.2 times the rate among Hispanic residents (15.3 cases per 100,000 per day).

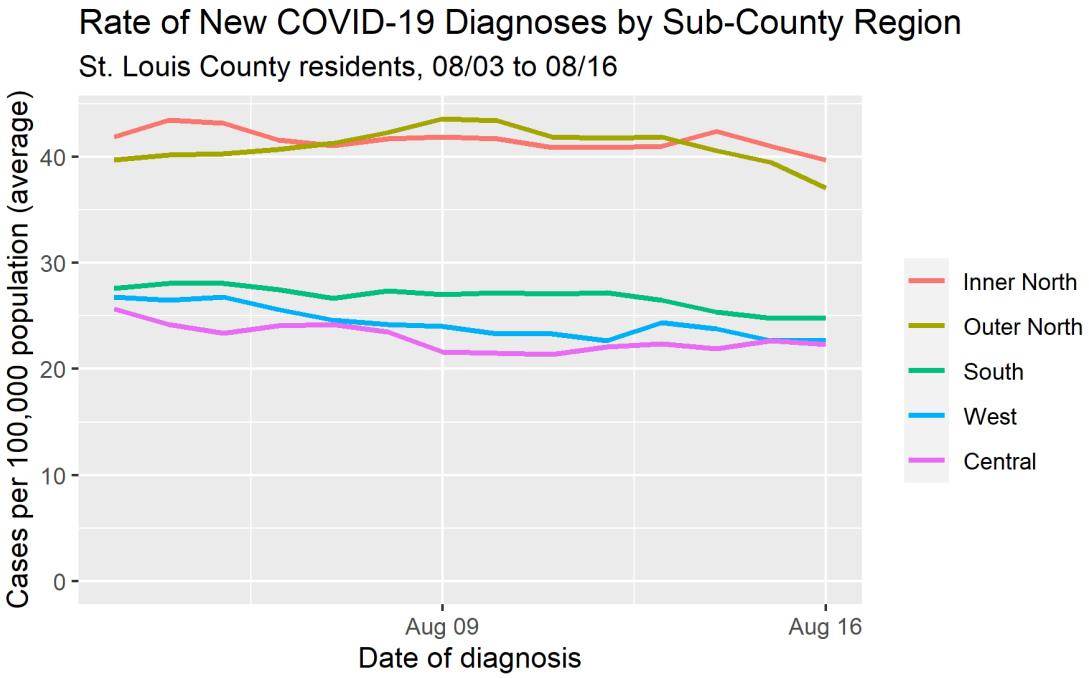


Region

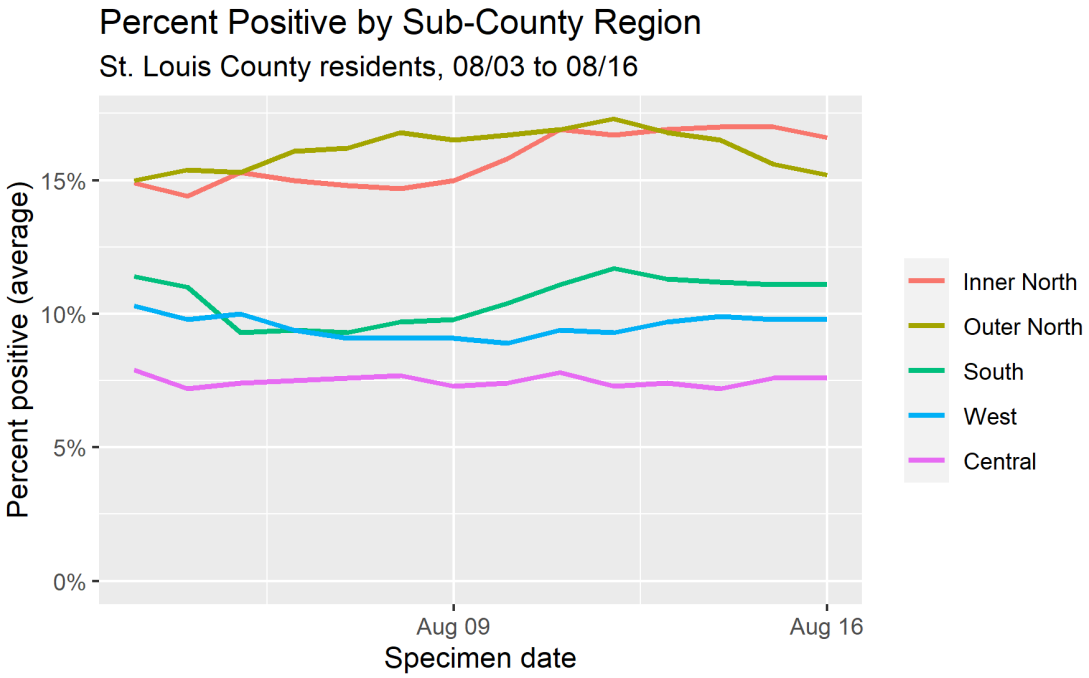
St. Louis County DPH often divides the county by ZIP Code into five regions, based on economic and demographic factors, for the purpose of measuring broad geographic trends below the county level.



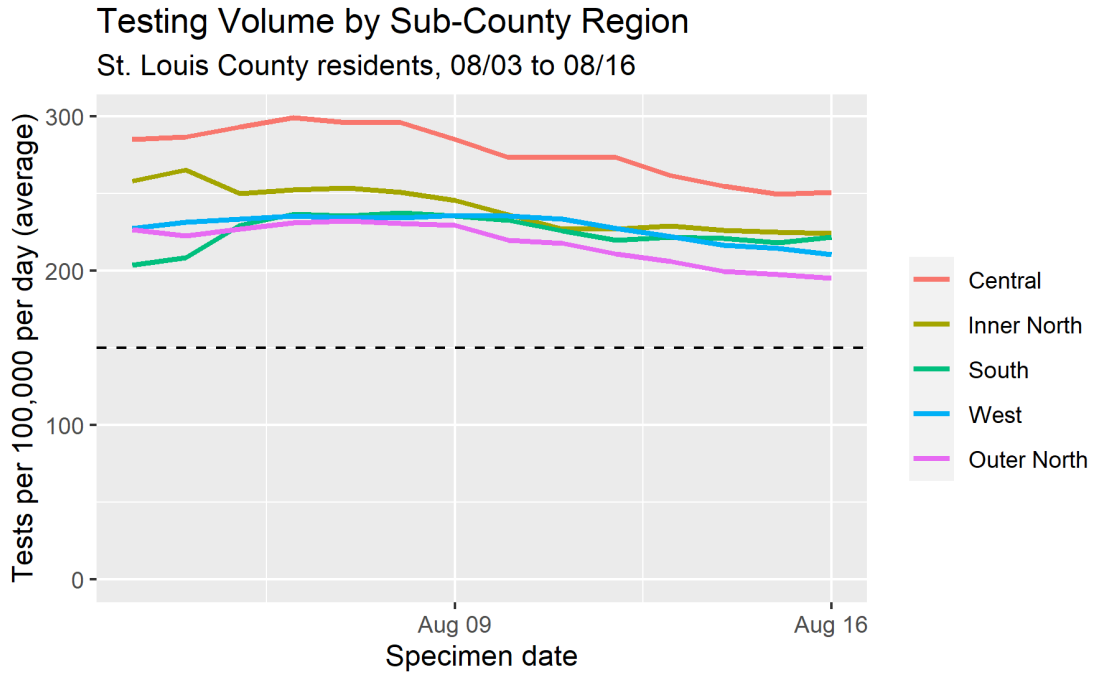
Average rates of new COVID-19 diagnoses decreased in all five regions between 08/03 and 08/16. As of 08/16, the average rate of new COVID-19 diagnoses is highest in the Inner North region (39.7 cases per 100,000 per day), followed by the Outer North (37.1), South (24.8), West (22.7), and Central (22.3) regions. The large gap between the two northern regions and the other three regions is notable, and likely reflects regional disparities in COVID-19 vaccination rates.



The seven-day positivity rate among those receiving PCR testing either increased or remained stable in all five regions between 08/03 and 08/16. As of 08/16, the PCR positivity rate is highest by far in the Inner North (16.6 percent positive) and Outer North (15.2 percent) regions, followed by the South (11.4 percent), West (10.3 percent), and Central (7.9 percent) regions. These rates indicate that too-low rates of testing are leaving many infections undiagnosed, further fueling increases in community transmission, particularly in the two northern regions.



Testing rates decreased in four of the five regions during this reporting period, with the South region seeing an increase. As of 08/16, the average rate of confirmatory COVID-19 testing ranges from 195 tests per 100,000 per day in the Outer North region to 285 in the Central region. While reported PCR testing volume is well above St. Louis County's established target of 150 tests per 100,000 per day in all five regions, current positivity rates suggest that more testing is urgently needed to identify a higher proportion of cases and bring transmission under control through isolation of cases and notification/quarantine of their close contacts. This applies to all five regions, but particularly the two northern regions.



ZIP Code

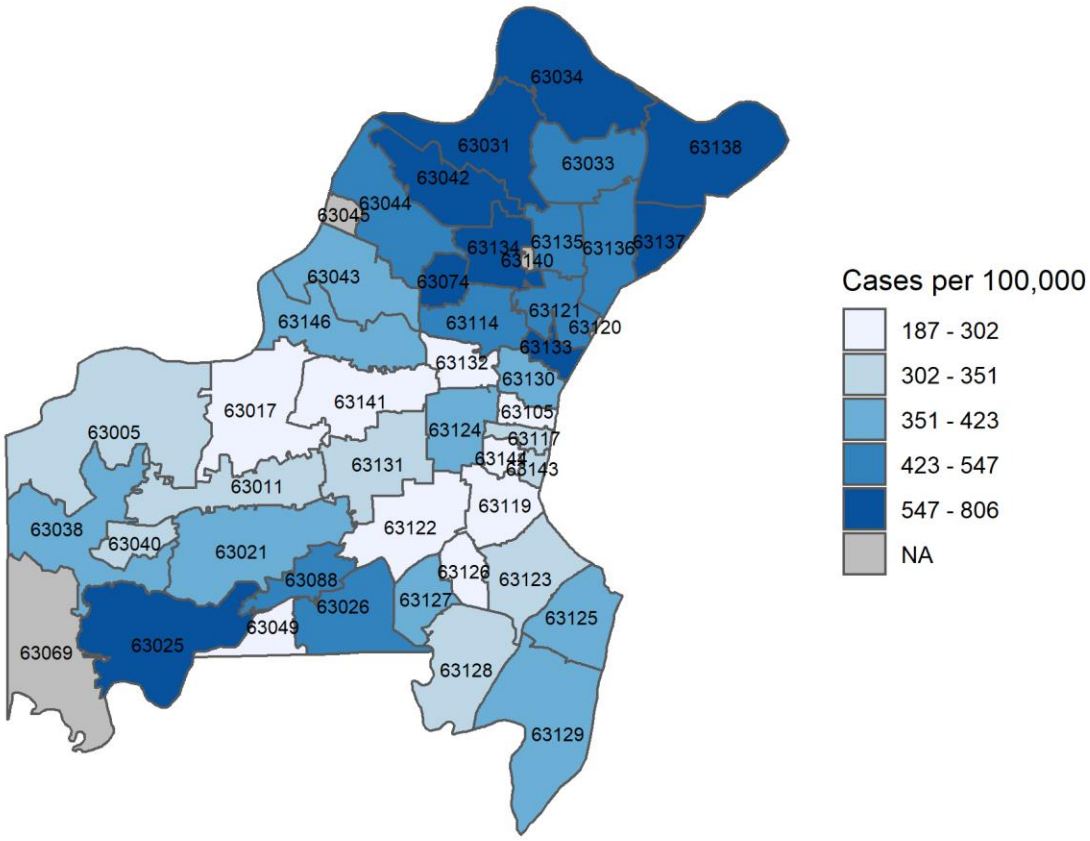
Between 08/03 and 08/16, the 14-day rate of new diagnoses among St. Louis County residents ranged from 187 cases per 100,000 in the St. Louis County portion of the 63105 ZIP Code tabulation area (ZCTA) to 806 cases per 100,000 in the St. Louis County portion of the 63137 ZCTA. Notably, 8 of the 9 ZCTAs with the highest rates of new infections over the last 14 days are in the Inner North and Outer North regions of the county.

See below for a map of COVID-19 rates by ZIP Code tabulation area (ZCTA) over a fourteen-day period. ZCTAs have been excluded from the analysis if they had between one and four cases diagnosed between 08/03 and 08/16 or if their residential population is less than 100 people. For counts and rates of new and cumulative COVID-19 cases by ZIP Code, please visit St. Louis County's COVID-19 statistics dashboard or Open Government page.

Saint Louis COUNTY PUBLIC HEALTH

Rate of New COVID-19 Diagnoses by ZIP Code

St. Louis County residents, 08/03 to 08/16

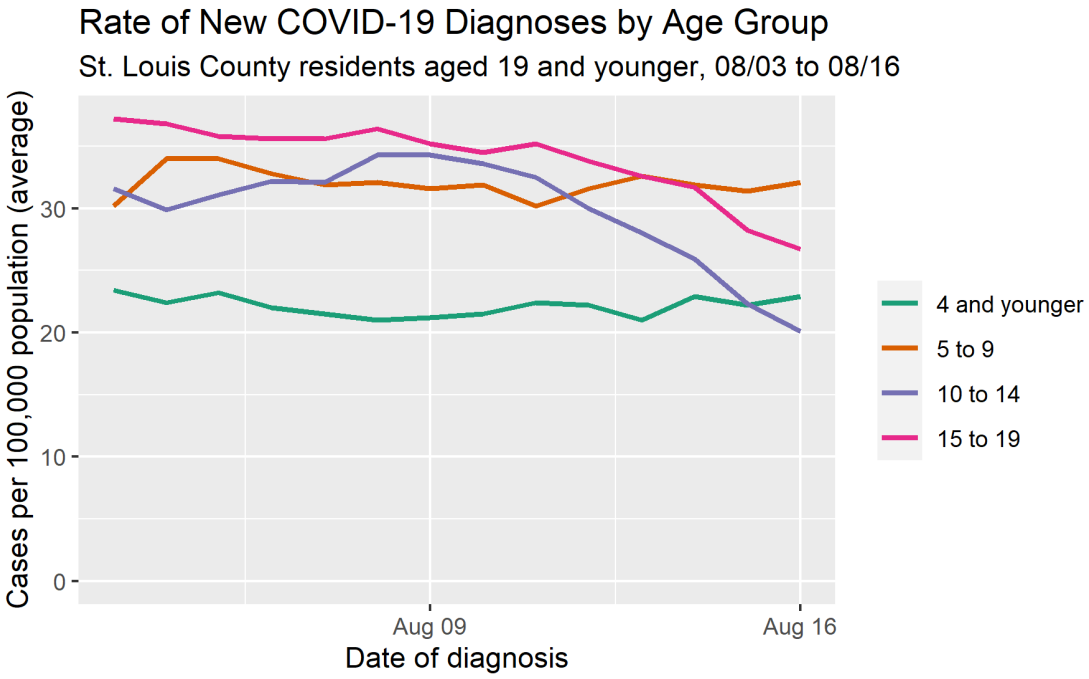


Youth Supplement

The following section takes a closer look at COVID-19 trends among St. Louis County residents aged 19 years and younger.

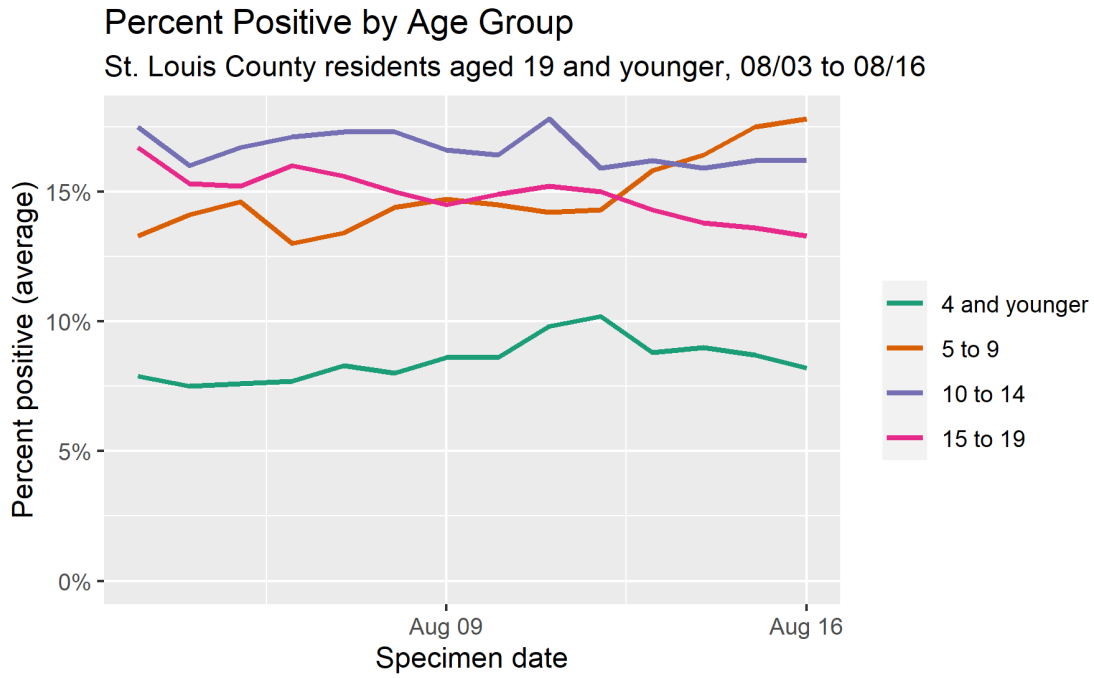
Cases by Age Group

Between 08/03 and 08/16, average rates of new COVID-19 diagnoses decreased considerably among most youth age groups, with 5–9 year-olds seeing a small increase. As of 08/16, the average rate of new diagnoses is highest among 5–9 year-olds (32.1 cases per 100,000 per day), followed by 15–19 year-olds (26.7), 0–4 year-olds (22.9), and 10–14 year-olds (20.1).



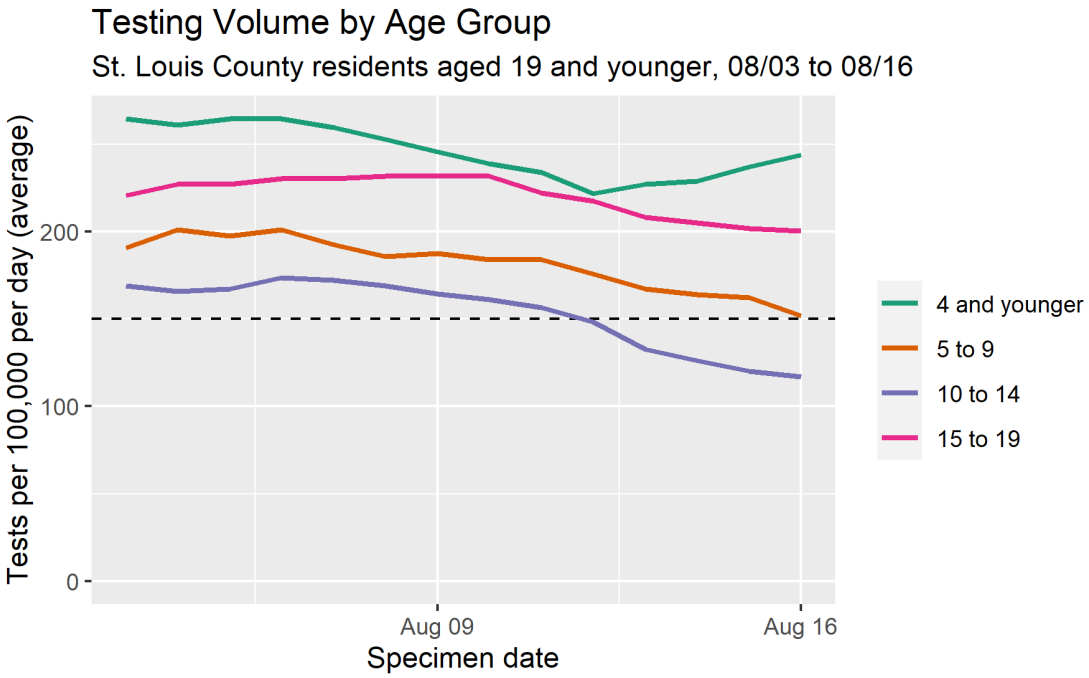
Positivity by Age Group

Between 08/03 and 08/16, SARS-CoV-2 positivity on PCR tests increased among 5–9 year olds, decreased among 10–14 and 15–19 year olds, and remained stable in 0–4 year olds. As of 08/16, PCR positivity rates are highest among 5–9 year-olds (17.8 percent positive), followed by 10–14 year-olds (16.2 percent), 15–19 year-olds (13.3 percent), and 0–4 year-olds (8.2 percent).



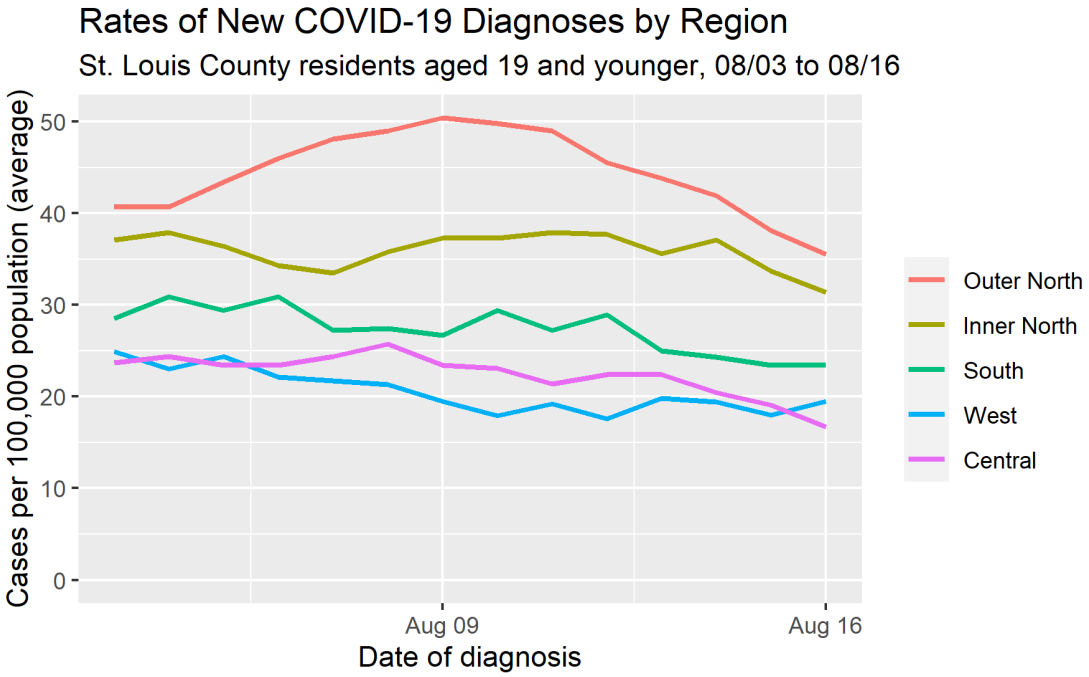
Testing Coverage by Age Group

As of 08/16, average PCR testing volume is above St. Louis County's target of 150 tests per 100,000 per day for three of the four age groups, with the 10–14 year-old age group being lower than the target. Rates of testing ranged from 117 tests per 100,000 among 10–14 year-olds to 244 among 0–4 year-olds. Regardless of the established target, however, high positivity rates among St. Louis County youth indicate that more testing is urgently needed to identify additional cases in these age groups and bring transmission under control through isolation and quarantine.



Cases by Region

Average rates of new infections decreased among youth in all five regions between 08/03 and 08/16. As of 08/16, the average rate of new youth diagnoses is highest in the Outer North (35.5 cases per 100,000 per day) region, followed by the Inner North (31.4) regions, South (23.4), West (19.5), and Central (16.7) regions.



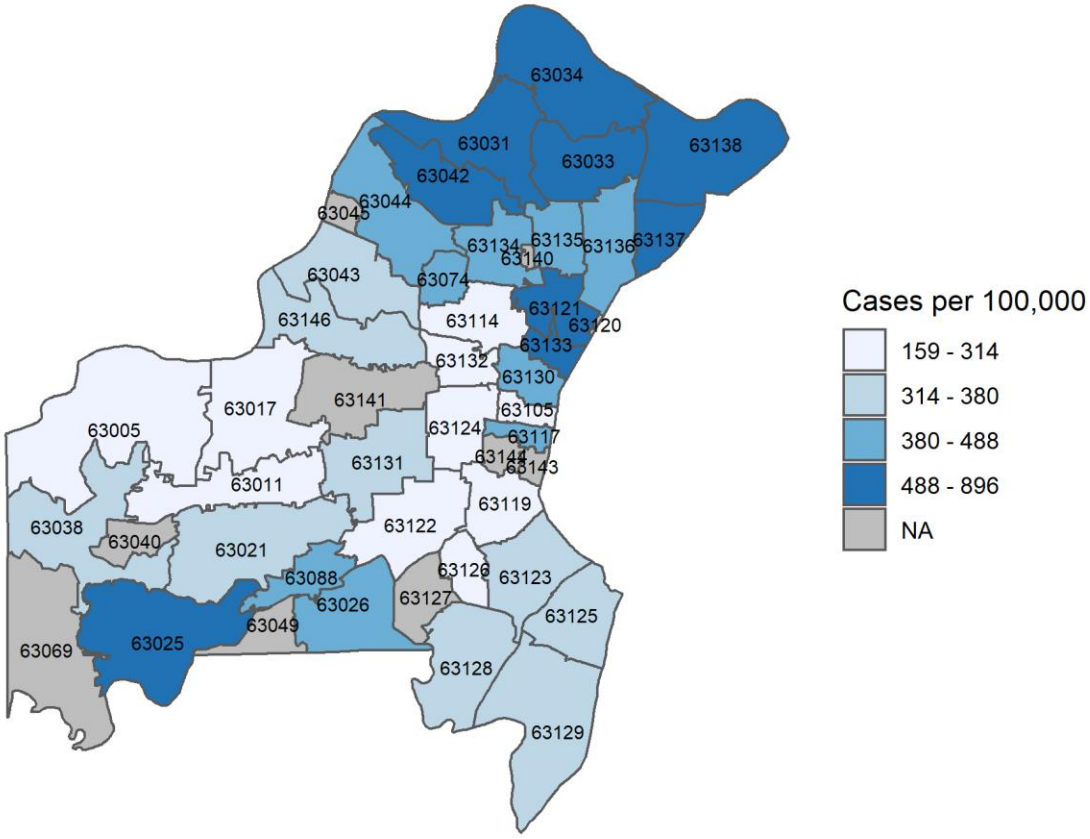
Cases by ZIP Code

Between 08/03 and 08/16, the 14-day rate of new COVID-19 diagnoses among St. Louis County youth ranged from 159 cases in the St. Louis County portions of the 63005 ZIP Code tabulation area (ZCTA) to 896 cases per 100,000 in the 63138 ZCTA.

See below for a table of COVID-19 case counts and rates among St. Louis County youth by ZIP Code tabulation area (ZCTA). ZCTAs have been excluded from the analysis if they had between one and four youth cases diagnosed between 08/03 and 08/16 or if their youth population is estimated to be less than 100 people.

Rate of New COVID-19 Diagnoses by ZIP Code

St. Louis County residents aged 19 and younger, 08/03 to 08/16



ZIP Code	Youth cases, last 14 days	Youth population	Youth cases per 100,000 population, last 14 days
63138	49	5471	895.6
63137	34	4192	811.1

63034	31	4133	750.1
63042	34	4628	734.7
63025	15	2395	626.3
63133	12	1982	605.4
63031	76	13372	568.4
63033	66	11965	551.6
63121	29	5388	538.2
63136	60	12285	488.4
63088	8	1694	472.3
63135	29	6179	469.3
63074	20	4388	455.8
63117	7	1545	453.1
63130	25	5517	453.1
63044	12	2714	442.2
63134	18	4159	432.8
63026	26	6062	428.9
63125	26	6852	379.5
63128	22	5944	370.1
63123	33	9538	346.0
63021	50	14567	343.2
63129	38	11222	338.6
63146	19	5675	334.8
63131	16	4803	333.1
63038	6	1824	328.9
63043	15	4703	318.9
63126	11	3509	313.5
63132	11	3760	292.6
63114	25	8636	289.5
63124	7	2422	289.0
63122	27	10048	268.7
63119	22	8390	262.2
63017	22	8766	251.0
63011	21	9762	215.1
63105	9	5127	175.5
63005	8	5025	159.2

Industry

During the time period included in this report (08/03/2021 through 08/16/2021), DPH completed case interviews on 20.9% of eligible cases of all ages and 21.1% of eligible cases aged 5 to 18 years. Among the subset of cases for whom DPH completed case interviews, the following information was reported regarding workplace exposures:

- The healthcare industry had the most reported cases (66) and the largest number of reported cases who worked/were present while infectious (50).
- The proportion of case-patients who worked while infectious (i.e., within 48 hours of symptom onset for symptomatic cases or specimen collection for asymptomatic cases) ranged from 36.8% in the education/childcare industry to 85.7% in the manufacturing/production industry.

The school-related portion of this report has been temporarily suspended while local schools are out of session for the summer.

Industry	**Total cases**	**Cases present while infectious**	**Proportion who worked while infectious**
Healthcare	66	50	75.8%
Retail/sales (clothing, furniture, vehicles, electronics, grocery, etc.)	29	22	75.9%
Manufacturing/production (goods, food, or supplies)	28	24	85.7%
Transportation (people, materials, or supplies)	28	20	71.4%
Restaurant/bar	26	17	65.4%
Business/finance/legal	21	11	52.4%
Education/childcare (school, university, daycare, library, etc.)	19	7	36.8%
Military/government	16	7	43.8%
Construction	12	10	83.3%
First responder (fire, police, EMS)	11	9	81.8%
Architecture/IT/engineering	10	<5	--
Entertainment/media/arts/design	7	5	71.4%
Maintenance/repair/installation (plumbing, electrical, flooring, etc.)	7	5	71.4%
Personal care and services (barber, aesthetician, spa, nail, etc.)	7	<5	--
Utilities (electric, gas, trash/recycling/waste, sewer, internet/cable, etc.)	6	5	83.3%

Janitorial/cleaning (home, business, industrial)	5	<5	--
Community/social services	<5	<5	--
Research	<5	<5	--
Faith-based (religious affiliation)	<5	<5	--
Refuse/decline	<5	<5	--
Sports/recreation/fitness	<5	<5	--
Agriculture/farming/ forestry/fishing/hunting/ mining	<5	<5	--

Indicators and Thresholds

Indicator 1: Rate of new cases

Data are collected daily and include all new cases among St. Louis County residents. This is the rolling seven-day average of new confirmed or probable cases diagnosed among St. Louis County residents per 100,000 population.

- Red: Greater than 8 cases per 100,000 per day
- Yellow: Between 4 and 8 cases per 100,000 per day
- Green: Less than 4 cases per 100,000 per day

Indicator 2: Trend in new cases

Data are collected daily and include all new cases among St. Louis County residents. This is the change in the seven-day rolling average of new confirmed or probable COVID-19 cases over a fourteen-day period.

- Red: If cases are increasing (more than a 10% increase) during the fourteen-day period.
- Yellow: If cases are flat (less than a 10% change in either direction) during the fourteen-day period.
- Green: If cases are decreasing (more than a 10% decrease) during the fourteen-day period.

Indicator 3: Number of non-household contacts per case

This is an average of the total number of contacts divided by the total number of cases (using a 7-day moving average), where the number of cases and contacts is taken from our case investigation and contact tracing databases.

- Red: If the average number of non-household contacts is increasing (more than a 10% increase) during the fourteen-day period.
- Yellow: If the average number of non-household contacts is flat (less than a 10% change in either direction) during the fourteen-day period.
- Green: If the average number of non-household contacts is decreasing (more than a 10% decrease) during the fourteen-day period.

Indicator 4: Percent positivity

Data on the number of positive and negative PCR tests for COVID-19 are provided daily by the Missouri Department of Health and Senior Services. This metric is the proportion of SARS-CoV-2 PCR tests that were positive over a rolling seven-day period.

- Red: Greater than 10 percent positive
- Yellow: 5 percent to 10 percent positive
- Green: Less than 5 percent positive

Indicator 5: New hospital admissions

Data on the number of new hospital admissions provided daily by the regional pandemic task force across the four major hospital systems. This metric uses the 7-day moving average of new COVID-19 related hospital admissions.

- Red: If new hospital admissions are increasing (more than a 10% increase) during the fourteen-day period.
- Yellow: If new hospital admissions are flat (less than a 10% change in either direction) during the fourteen-day period.
- Green: If new hospital admissions are decreasing (more than a 10% decrease) during the fourteen-day period.

Indicator 6: Number of COVID-associated deaths

Data are collected daily and include all COVID-19 associated deaths among Saint Louis County residents. This is the change in the seven-day rolling average of COVID-19-associated deaths over a fourteen-day period.

- Red: If deaths are increasing (more than a 10% increase) during the fourteen-day period.
- Yellow: If deaths are flat (less than a 10% change in either direction) during the fourteen-day period.
- Green: If deaths are decreasing (more than a 10% decrease) during the fourteen-day period.

Indicator 7: Percent of test target

This is the rolling seven-day average of COVID-19 PCR tests conducted among St. Louis County residents, relative to St. Louis County's target of 150 tests per 100,000 population per day.

- Red: Less than 50 percent of the target
- Yellow: Between 50 and 99 percent of the target
- Green: 100 percent of the target or greater

Indicator 8: COVID-19-related ICU occupancy

Data about the total number of confirmed and suspected patients currently admitted to intensive care units (ICUs) across the four major hospital systems (BJC, Mercy, SSM, and St. Luke's) is provided daily by the St. Louis Metropolitan Pandemic Task Force.

- Red: More than 20 percent of ICU beds occupied by COVID-19 patients.
- Yellow: Between 10 and 20 percent of ICU beds occupied by COVID-19 patients.
- Green: Fewer than 10 percent of ICU beds occupied by COVID-19 patients.